Work Orde September-11-14				*124	1292*						Page 1
Revision ID:	D3643-2 Stiffener			Accept	*N900	040	100)*	Setup Sta	17	S1*
	9/10/14	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item 1 Customer:	ID: /				_տ ∗[/]	S2*
Approvals:	Process Plan	n: MLJ	Date: 14-091-16	Tooling:	D	ate:	_	. 1	Run Sta	^{rt} *N	R1*
	QC:		Date:	SPC (Y/N):		ate:			Sto	op	R2*
Sequence ID/ Work Center ID		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp.
Draw Nbr	Revi	sion Nbr						20		ramoer	Stamp
D3643	Rev	A									
100				0.00						· .	
100 Waterjet FLOW CNC Waterjet		_	т Dwg D3643	0.00				<u>(b)</u>	-	De l	4/10/19
		Dwg Rev:_ Prog Rev:_ 2-Deburr if	A								

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110 _{QC}

Memo

0.00

@ 2/00.14/15/19

Quality Control

DQA:			Date:												TRAGE
			Doto			WORK ORDER NON	-C(ONFO	RMANCE / UF		Morl	Order un	odate only		AEROSPACE
QA Closed:			Date:							V	VOI	Corder up	date only		
Work Orde	r:					DISPOSITION				AGAINST D	EPA	RTMENT	/PROCESS		
	•	***				Rework	1		Skid-tube	Crosstube			Water Jet		Engineering
Part N	o.					Scrap	1		Machining	Small Fab		Pro	d. Eng. Coor.		Quality
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		Bending			<u> </u>	Bend		1	Program	<u>_</u>		utside Dim		-	Pressure/Forced
		Centre No	ot Concen	itric		BOM/Route		Grain		<u> </u>	⊣ i	ver/Under		_	Set-up
		Cracks				Broken/Damage/Defect		Hardwa		_	_	art Incorrec		-	Temperature/Cure
1	Crimp/Kink/Ripple/Wave			/Wave	<u> </u>	Burrs		i '	ion Incomplete/Un	· —	_	art Lost/Mi	ssing	\vdash	Weld
	Cuffs				ļ	Contamination		i	tions Incomplete/U	nclear	_	art Moved			Wrong Stock Pulled
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	Inspection Strip in Tube			Tube	<u> </u>	Drawing	<u></u>	Misread							
	Marks/Chatter				ļ	Drill Holes	\vdash	Off-set			_				
	Turning Sequence					Finish	<u></u>	1	Calibration		_				·
		Wave/Tw	ist in Tub	e		Fit/Function		Out of 9	Sequence						

Work Ord				*124	1292*						1000	Page 2	2
Revision ID: Item Name: Stiffener Start Date: 9/10/14 Required Date: 9/10/14 Reference:		Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		*N900 Cust Item II Customer:		100) *	Setup	Start Stop	17	S1* S2*	
Approvals:	ovals: Process Plan:QC:		Date:	Tooling: SPC (Y/N):		ite:		;	Run	Start Stop	^I/J	R1* R2*	
Sequence ID/ Work Center I 120 *1 20* QC Quality Control	D	Operation Description QC8- Inspect parts - seco	ond check	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp DAS 38 9-89 OCT	2 0 2014
130 *120* Brake NC Brake NC		NC BRAKE Memo Form as per	Dwg D3643	0.00			DAS 30 9-89	6				<u> </u>	(o) 23

0.00

0.00

140

Small Fab

140 Small Fab Small Fab

Memo

C'sink as per Dwg D3643

DQA:			Date:						_				`	TRAC [*]
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QA Closed:			Date:					1		VV	ork Order up	date only		
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Work Orac	- ' -		*			Rework			Skid-tube	Crosstube	1	Water Jet		Engineering
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Root		*			Desc	ription of work order update		nitial	Acti	on	Sign &	-	T	
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	ption	Date	Verification		QC Inspector
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		Centre No	ot Concer	ntric		BOM/Route		Grain			Over/Under	tolerance	_	et-up
		Cracks				Broken/Damage/Defect		Hardwa	ire	<u> </u>	Part Incorred	F	_	emperature/Cure
	Crimp/Kink/Ripple/Wave			/Wave		Burrs		Inspect	ion Incomplete/Un	qualified	Part Lost/Mi	ssing	_	Veld
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	Crushing					Countersink		Misalig	ned/off center		Positioned V	-		
	Heat Treat				Cut Too Short		Mislabe	eled		Power Loss/	Surge	0	ther	
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	Marks/Chatter					Drill Holes	L	Off-set						
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		Wave/Tw	ist in Tub	oe		Fit/Function		Out of	Sequence					

Work Ord September-11-				*124	1292*							Page 3
Item ID: Revision ID: Item Name: Start Date:	D3643-2 Stiffener 9/10/14	Start Qty: 4.00	*4*	Accept	*N900		100)*	Setup	Start Stop	1 7	S1* S2*
Required Date Reference:	e: 9/10/14	Req'd Qty: 4.00	*4*		Customer:							
Approvals:		lan:	Date:	Tooling:		ate:			Run	Start Stop	*N	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:				оюр	*N	R2*
Sequence ID/ Work Center 1	ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Rej		Reject Number	Insp. Stafisp
150		QC5- Inspect part compl	eteness to step on W/O	0.00					`			38 9- 6 9
150 QC Quality Control		Мето		0.00				(6)	<u>)</u> _			OCT 2 3 2014
160		Chemical Conversion Co	at per QSI005 4.1	0.00						2		1
1 AN HandFinish Hand Finishing		Мето		0.00				6	1	5	<u> 14-10</u>	0-24///

170

QC7-Inspect Chemical Conversion Coat

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170

Quality Control

JC .

Memo

0.00

OCT 2 4 2014

DAS 38 9-89

DQA:			Date:											RT
04.61			Data			WORK ORDER NON	l-C(ONFO	RMANCE / UPD		Vork Order u	ndate only	AEROS	SPACE
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	•					Use-as-is	1		moforming	Finishing		re/Packaging	Othe	er
NCR N	lo.					Suspected Unapproved			Large Fab	Composite		Supplier		
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		Bending				Bend		 Folio/F	Program	ļ	Outside Dim	ensions	Pressure/Ford	ced
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Work Ord		-		*124	1292*				-		Page
Item ID: Revision ID: Item Name:	D3643-2 Stiffener		71 10 4 5	Accept	*N900	040	100)*	Setup Sta	17	S1* S2*
Start Date: Required Date Reference:	9/10/14 : 9/10/14	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item :	ID:				···IVI	
Approvals: Process Plan:QC:			Date:	Tooling: SPC (Y/N):		ate:			Run Sta Sto	^IVI	R1* R2*
Sequence ID/ Work Center I 180 *120* Packaging Packaging	D	Operation Description Identify as per dwg & Sto	ock Location:	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number 26 9-89	Insp. Stamp OCT 27

190

QC21- Final Inspection - Work Order Release

0.00

190

Quality Control

Memo

0.00

14/10/27 A)

OCT 27 2014

Page 4

DQA:			Date:						_						TRACC
			Date:			WORK ORDER NON-	-CC	ONFO	RMANCE / UF	PDATE	۱۸/	ork Order uj	ndate only	_	AEROSPACE
QA Closed:			Date.		_								· · · · · · · · · · · · · · · · · · ·	1	···
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	•					Use-as-is		Therr	noforming	Finishing		Rec/Sto	re/Packaging		Other
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Operator															
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		Centre No	ot Concer	ntric	_	BOM/Route		Grain			<u> </u>	Over/Under		-	Set-up
	-	Cracks			<u> </u>	Broken/Damage/Defect		Hardwa			L	Part Incorred		_	Temperature/Cure
	Crimp/Kink/Ripple/Wave			/Wave	<u> </u>	Burrs	-	1 '	ion Incomplete/Un	•	_	Part Lost/Mi	issing	_	Weld
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	Heat Treat			-	Cut Too Short		Mislabe			Щ	Power Loss/	ourge [Other	
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Picklist Print

September-11-14 12:01:21 PM

Work Order ID: 124292

124292

Parent Item:

D3643-2

D3643-2

Parent Item Name: Stiffener

Start Date: 9/10/14

Required Date: 9/10/14

Page 1

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP Rev:A New Issue 07-07-20 JLM

Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Primary Item Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.040		Purchased	No		100	sf	137.4440	0.1475	1			
*M2024T3	*010							44	1			/ /

2024-T3 .040 sheet

Location	Loc Oty	Loc Code	
MATOO	107 111		

Location	Loc Oty	Loc Code	
MAT022	137.444		
m127582	59.174		
m128354	29.97		
m129236	48.3		
130497			975

19722

DQA:			Date:										TRAGG*
						WORK ORDER NON	-CC	ONFO	RMANCE / UP			–	AEROSPACE
QA Closed:			Date:							W	ork Order up	date only	
Mank Orda						DISPOSITION				AGAINST D	EPARTMENT,	/PROCESS	
Work Orde	-					Rework	1		Skid-tube	Crosstube	٦	Water Jet	Engineering
Part N	0					Scrap		1	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
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NCR N	lo.					Suspected Unapproved			Large Fab	Composite		Supplier	
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Root					Desc	ription of work order update	ı	nitial	Acti	on	Sign &	-	
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		Bending Centre No	nt Cancan	trio		BOM/Route	_	Grain	Togram		Over/Under	<u> </u>	Set-up
 	-	Cracks	of Concer	iti it	-	Broken/Damage/Defect	\vdash	Hardwa	ıre		Part Incorred	-	Temperature/Cure
<u> </u>	_		nk/Binnle	/\ <i>M</i> >ve	<u> </u>	Burrs	-	l	ion Incomplete/Un	nualified —	Part Lost/Mi	 	Weld
<u> </u>	Crimp/Kink/Ripple/Wave			, wave	-	Contamination	-	•	tions Incomplete/U		Part Moved		Wrong Stock Pulled
<u> </u>	Cuffs Crushing					Countersink	\vdash	1	ned/off center	-	Positioned V	∟ Vrong	
	Heat Treat				\vdash	Cut Too Short		Mislabe		<u> </u> -	Power Loss/		Other
	Inspection Strip in Tube			Tube		Drawing		Misread		L.		- L.	
	Marks/Chatter					Drill Holes		Off-set					10 h 10
	Turning Sequence					Finish	\vdash	1	Calibration				
		Wave/Twist in Tube				Fit/Function		Out of	Sequence				

DART AEROSPACE LTD	Work Order:	124792	
Description: Stiffener	Part Number:	D3643-2	
Inspection Dwg: D3643 Rev: A		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

х	First Article	Prototype
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Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.098	+0.004/-0.001	. 106	_			
Ø0.266	+0.006/-0.001	. 268	/			
1.90	+/-0.030	1.90	_			
0.96	+/-0.030	-96				
1.25	+/-0.030	1.25	<i></i>			
2.000	+/-0.010	2.00-	1			.,,
4.49	+/-0.030	4,49	/			
9.00	+/-0.030	9.00	1			
9.75	+/-0.030	9.75	1			
0.81	+/-0.030	18.	1			
0.040	+/-0.010	, 059	/			
			-			
			DAS			-

·				39		
Measured by:	pc/	k,	Audited by:	9-69	Prototype Approval:	N/A
Date:	14/	10/19	Date:	14-20-20	Date:	N/A
		1				

Rev	Date	Change	Revised by	Approved
Α	07.10.19	New Issue	KJ/EC/DD	<i>X</i>

Ø0.098 THRU BEND LINE Ø0,266 (2 PLACES) C'SINK Ø0.179 X 100° (4 PLACES) ***** (i) ***** GRAIN DIRECTION 1.90 1.36 0.96 0.81 0.344 - 1.25· (TYP) R0.25 (TYP) 2.000 4.49 9.00

SHOP COPY **RETURN TO ENGINEERING UNCONTROLLED COPY** SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER NO 124 292 MLJ

14-09-16

D

ENSURE THAT COUNTERSINKS ARE ON THIS SIDE OF THE PART-0.60 (REF) ***** (i) *** +** (1) **+**

> D3643-1 STIFFENER (REPLACES GENEVA P/N G10610-2) D3643-2 OPPOSITE (REPLACES GENEVA P/N G10610-1)

> > 5

D3643-1F FLAT PATTERN (D3643-2F OPPOSITE)

NEW ISSUE; REPLACES G10610 07.07.27 REV. DESCRIPTION BY DATE DESIGN DART AEROSPACE LTD DRAWN HAWKESBURY, ONTARIO, CANADA DRAWING NO. CHECKED REV. A D3643 MFG. APPR. SHEET 1 OF APPROVED TITLE SCALE **STIFFENER** DE APPR. 2:3 COPYRIGHT © 2007 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND COMPORTING, AND IS SUPPLIED ON THE SUPPLIES CONDITION THAT IT IS NOT TO BE USED FOR ANY ANALOSE OF COMPORT ON COMMUNICATION TO ANY OTHER PRISON WHICH THE DATE 07.07.27

2

NOTES:
1) MATERIAL: 2024-T3 ALUMINUM SHEET 0.040 THICK PER QQ-A-250/4 OR AMS 4037
(REF DART SPEC M2024T3S.040)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3643-1/-2" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT: 0.06 lbs